MANUALS.—DEMPSEY'S BUILDERS' GUIDE.

WHEN contemplating constructive failures, and their consequences, we have sometimes been led to think that it would not be amiss, when public officers were being appointed for the supervision of structural operations, if candidates were brought forward by their nominators in a manner similar to that adopted in the case of parliamentary elections; in order that those resident in the districts concerned might have the opportunity of satisfying themselves as to their eligibility. Then, the very act of publicly proposing Mr. So-and-so as a "fit and proper person," &c., would lay the nominator under a responsibility which of itself would be a partial guaranty of the candidate's competency; while the electors could put such interrogatories as to them seemed calculated to clear away any doubts that remained, and also to determine as to comparative merit. Under such a plan we should possibly have such colloquies as the following:—

Querist.—"What are your sentiments as to the modern use of ancient architectural styles, for purity or adaptation?"

Candidate.—"Pure; decidedly conservative," or "for liberal adaptation," as the case might be.

Querist.—"And as to labour?"

Candidate.—"Protective; that is, I disapprove sub-letting."

Querist.—"What is your opinion of the practice of compoing?"

Candidate.—"That it hides a multitude of sins; but that the railways will put an end to it; by facilitating the transmission of proper building materials, from the scenes of their production to any where that they may be wanted."

Querist.—"Do you think working-men should be allowed access to scientific information?"

Candidate.—"Certainly: universal suffrage! they want useful-art education."

Querist.—"You may go down for the present."

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Failures are expensive lessons; therefore they should not be lost upon us: in them we may discover the fallacy of what previously may have been considered infallible principles. Non-failures may be just within the verge; and yet pass for successes. Yet, it is not to be denied that just proportions convey a sensation of satisfaction, though we may not perceive, the while, the excellencies that compose the perfection which results; or, on the other hand, that that which is on the verge of failure, if visible, is usually unsatisfactory to the senses, though we do not, the while, detect wherein the impending danger is involved. How vital, that district surveyors should be able practicians; that workmen should progress, and not retrograde; and that those who immediately direct or supervise their operations should be "well up" in the principles as well as practice of the multifold ramifications of their art. There is much more requisite to occupy the mind than the poetry and æsthetics of our art: there are the sterner realities; sterner, because more responsible, but yet pleasurable also, when pursued with right spirit.

If construction be more responsible than design, then should we be ready to award the fair meed of commendation to those writers who devote their time and talents to its development; and who, impressed with its prime importance, waste the midnight oil in its abstruse considerations. And those manuals which walk the cycle of the structural arts, if carried out with integrity, are deserving our regard hardly less than the more elaborated mono-treatises; seeing that they address themselves to the greater number, and convey, in a concentrated form, the pabulum they require.

It was under impressions such as these that we took up a new work by Mr. Dempsey, "for the use of builders, clerks of works, professional students, and others engaged in designing or superintending the construction of buildings."* In this work, though there is hardly anything so salient as to arrest especial attention, we have yet a fruit of much industry and discrimination well applied; and, indeed, in the more important departments of building, such as foundations, boring, piling, &c., there is much that is often left untouched in works of a similar class. To the clerk of works, to the onerous nature of whose office full justice is done in the introduction, it will form as good a "Guide," for its size, as he could wish for. In it will be found several appliances which are thus published in a permanent form for the first time. We feel satisfaction in being able to recommend it, as sound and practical, and free from the encumbrance of unnecessary verbiage. The subjoined extract may serve as a sample:—

"*Slate.*—Slate is a material which is met with in a great variety of qualities. That used for roofing is quarried abundantly in Westmoreland, Yorkshire, Leicestershire, Cornwall, and Devonshire. Also, to a great extent, in Wales, for the London market. In Scotland, Balahulish and Easdale furnish the chief supply. Irish slate, of good quality, is now quarried in the island of Valentia, Kerry. Slate appears to be a sedimentary rock, formed by the deposition of minute particles of the primary rocks in a stratum of mud, subsequently consolidated by heat or pressure. This theory of formation seems especially probable in the case of those slates which contain vegetable or animal remains. In some instances, the depositions of mud have become intermixed with matter ejected by submarine volcanoes, or fragments of older rocks, broken and dispersed by geological convulsions. This kind of intermixture has produced the varieties of greywacké rocks, which pass from coarse slate into conglomerate rocks, and occasionally appear composed of slate and sand, differing but little from sandstone. Flinty slate contains more siliceous earth than the other kinds, and is frequently met with alternating with the latter. This kind of mixture, when it loses the laminar structure, becomes *hornstone*, or, as the French call it, *petro-silex*. If it contains crystals of felspar, it is termed hornstone porphyry. All these varieties are found alternating in the same rocks in Charnwood forest, in North Wales, and in Cumberland. Slate contains nearly all the principal metallic ores, either in veins or beds, but *flint* slate seldom contains any of these. The *killas* of Cornwall, which is remarkably metalliferous, is a variety of slate. *Clay-slate* is a softer kind, found in the coal strata, abounding in the most rocky districts, resting on granite gniess or mica slate. That slate lying nearest to the primary rocks has a more shining lustre than the other, and partakes more of the crystalline quality of mica slate: receding from these its texture becomes more earthy. In colour, it has various shades of grey, inclining to blue, green, purple, or red. It is chiefly composed of indurated clay, with, occasionally, particles of quartz and mica, and in the coarser kinds, fragments of the primary rocks, grains of felspar, &c. Clay slate is always found in stratified beds, from half-an-inch to many hundred feet in thickness. Slate rocks vary much in quality in the same mountain. Magnesia enters largely into the composition of some of the slates, giving them a green colour, whence they pass into chloric or talcy slate. Whetstone slate, used for hones, is a variety of this kind. The fine kind, which is used for roofing, seldom forms entire mountains, but is generally embedded in coarser qualities. The beds are sometimes of great thickness, and usually rise at an elevated angle. Those varieties which are the least absorbent have the smoothest surface, and split into the thinnest plates, are, of course, the best for conversion. A symptom of quality for durability is afforded by breathing on the slate, when, if the argillaceous odour is strongly emitted, it may be inferred that the slate will be liable to rapid decomposition. The large slate quarries at Penrhyn, are worked in successive ranges of elevation, or terraces, and the slate is obtained in immense masses by blasting."

LECTURE BY LORD LEWISHAM, M.P.—At Bilston, on Tuesday week, Lord Lewisham delivered, to the colliery and other population of Bilston, a lecture "On Civility, considered as Benevolence in Trifles." There was a numerous attendance. His lordship's lecture was full of good sense and right feeling. Civility towards equals, towards superiors, and towards inferiors, was successively treated of.

* The Builder's Guide: a practical Manual, &c., &c. By G. Drysdale Dempsey, C.E. 8vo., pp. 193, with 166 illustrations. Atchley and Co., London.

Books.

A Text Book of Geometrical Drawing, for the use of Mechanics and Schools, in which the definitions and rules of geometry are familiarly explained, the practical problems arranged from the most simple to the more complex, and in their description technicalities avoided as much as possible: with illustrations for drawing plans, sections, and elevations of buildings and machinery; an introduction to isometrical drawing; and an essay on linear perspective and shadows; the whole illustrated with fifty-six steel plates, containing over two hundred diagrams. By WM. MINIFIE, architect, and teacher of drawing in the central high school of Baltimore. Third edition, published by W. Minifie and Co., Baltimore. 1851.

WE have thus fully given the title of this volume, not only to show at once its objects and purposes, but that we may be able also at once and comprehensively to say that it appears to us to bear out all its professions. It is really a capital work, and though containing not much more than 100 pages imperial octavo, judiciously comprises the greater part of what a learner needs, though previously entirely unacquainted either with geometry or drawing. The engravings are carefully executed, and the whole comprises mainly a selection, by the author, from the whole compass of standard works, of all that he found in practice to be really useful, simple, and effective in elementary class instruction. The book is deservedly highly esteemed in America. It is evidently the work of one who understands his subject, and we suppose that such of our readers as desire to possess and study it, may, by application to Mr. John Chapman, in the Strand, or some other publisher who deals in American books, be able to obtain it.

Miscellanea.

THE ORIGIN OF ELECTRO-METALLURGY.—On Monday in last week a public dinner was given at Liverpool, to Mr. Thomas Spencer, as the discoverer of electrotype, originator of electro-metallurgy, and improver of the galvanic pile, on the occasion of his departure from Liverpool to reside in London. In course of the evening a purse, containing 200 guineas, was presented to Mr. Spencer, who, in acknowledging the compliment, gave an account of the origin of those experiments in 1837 which resulted in his discovery of the art of metallurgy. "The apparatus," he said, "which I adopted for these operations in 1837 is the same as that now sold in the shops as the 'single-cell electrotype apparatus.' There are several gentlemen now present who saw these experiments in operation at the time; yet many attempts have been made to deprive me of the credit of the discovery. A statement was made in the *Mechanics' Magazine* in 1844 (and most industriously disseminated throughout Europe) to the effect that I had copied my experiments from a letter written by a Mr. Jordan, and published, I think, in the June number of that print for 1839. Nothing could be more absurd than this last charge. In fact, I had never seen the letter until it was thus pointed out; and if I had, I could not have obtained anything practical from it."

NEWS OF THE EXHIBITION BUILDING.—A commission has been issued from the Lords of the Treasury to Lord Seymour, Sir Wm. Cubitt, and Dr. Lindley, to inquire and report on the cost of maintaining the building on its present site,—of its removal elsewhere, either wholly or in part,—and the purposes to which it may be advantageously applied. The evidence of the contractors and others qualified to advise on these subjects will of course be fully gone into.

BANKERS' EXHIBITION ESSAY.—The prize of 100*l.*, offered in January last by Mr. Gilbart, F.R.S., of the London and Westminster Bank, for the best Essay upon the Great Exhibition, in connection with "Practical Banking," has been awarded to Mr. Granville Sharp, of Norwich.

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